



NASCIO 2006 Recognition Awards Nomination



Michigan

Title of Nomination: Michigan Recreational Boating Information System (MRBIS)

Category: Digital Government: Government to Citizen (G to C)

Nomination Information

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Michigan Recreational Boating Information System (MRBIS): Executive Summary

Michigan systematically tracks, assesses, targets and manages emerging technologies. Recent examples include GIS, wireless and mobile technologies. GIS and the Center for Geographic Information represents the most highly developed example. The state has made a \$32 million cross-boundary GIS investment of which approximately \$2.5 million represents enterprise web mapping technology development.

The Michigan Recreational Boating System www.mcgi.state.mi.us/mrbis, highly leveraged and cost effective GIS project, targets and supports Michigan's recreational boating and tourism. Spending by recreational boaters is estimated to total \$2.24 billion, including \$860 million on boating trips; generating \$636 million in income to business owners and employees and producing a total of 24,000 Michigan jobs.

MRBIS is a publicly available interactive web mapping system that enables Michigan and out of state users to acquire detailed information on the over 1,300 public boating access sites located on Michigan lakes and rivers, and the 80 Great Lakes Harbors and marinas. By combining geospatial, relational database, and Internet technologies, MRBIS offers users the option to list Great Lake Harbors, or to list public boating access site by county, by water body, by proximity to a community, or by known sport fish species within a lake. Public boating access sites or harbors meeting the user specified criteria are returned with site specific information such as: local weather forecast, fish stocking, ramp type, handicap accessibility, fees, restroom and shower facilities, parking, fuel availability, and other boater amenities. Once at the map, users can view the site with a backdrop of aerial imagery, topography, or land use. Further, once a user finds a boating access site or harbor of interest, MRBIS offers a routing capability that provides driving directions to the site.

- **Significance of MRBIS to Operations of Government Includes :** Support for IT strategic role; advancing technology and innovations management capabilities; leveraging IT investments and providing ROI; support collaboration and partnership goals; and enhancing state Web based service capabilities and the state brand.
- **Customer, Service and Related Benefits:** Boaters / vacationers / tourists; recreational boating / tourism industries; and the Department of Natural Resources (DNR).
- **Short and Long Term Benefits** accrue to the agency, and also include leveraging enterprise level infrastructure investments, infusing tourism and recreation dollars into the Michigan economy, and potential job creation.
 - Annual savings to the agency (DNR) are \$93K.
 - The \$32 million cross-boundary GIS investment is enabling leveraged investments on MRBIS I and II with ratios of 78 and 11 to 1.
 - Annual infusion of new boating, recreational dollars in the Michigan economy could range between \$2.5 to \$6.7 million, with potential for 43 – 110 new jobs.

A. Description of Business Problem and Solution

Michigan systematically tracks, assesses, targets and manages emerging technologies. Recent examples include GIS, and wireless and mobile technologies. GIS and the Michigan Center for Geographic Information, created in 2002 and with one of the nation's first GIS directors, is the most highly developed example. The state has made a \$32 million cross-boundary investment in GIS investment of which approximately \$2.5 million represents enterprise web mapping technology development.

Michigan is blessed with more than 11,000 inland lakes and is surrounded by the Great Lakes. The Great Lakes are considered in U.S. federal law as the nation's "fourth seacoast." Boating is a popular recreational activity and major contributor to economic activity in Michigan. With 1.1 million registered boats, Michigan has more than a fourth of the Great Lakes 4.2 million registered boats, which in turn are a third of the US total. Spending by recreational boaters is estimated to be \$2.24 billion, including \$860 million on boating trips. Boater spending on trips and their craft is important to many communities throughout the state. More than 3 million Michigan residents participate in recreational boating activities. It is estimated that registered boat owners log more than 22 million boating days. This spending generates \$636 million in income to business owners and employees and has produced a total of 24,000 Michigan jobs. Spending by registered boaters provides significant revenues and income to thousands of boating, hospitality, and retail businesses throughout the state. For additional detail see *The Economic Importance of Michigan's Recreational Boating Industry*, Recreational Marine Research Center at Michigan State University, Copyright© 2002, <http://www.msu.edu/course/prt/840/econimpact/index.htm>

Michigan Public Act 451 of 1994 requires the Michigan Department of Natural Resources (DNR) to gather and provide to the public, information about public boating opportunities. To fulfill this requirement, the DNR historically published a guide to public boating access sites --- all government public launches are included, state and municipal. With boating access site information changing regularly, the hard copy guides became quickly out of date and was limited in its distribution (70,000 copies). In an effort to replace the hard copy guides, the DNR leveraged the state's cross-boundary GIS investment and initiated the development of the Michigan Recreational Boating Information System (MRBIS) www.mcgi.state.mi.us/MRBIS to more effectively support this critical sector of the state's economy.

MRBIS is a publicly available interactive web mapping system that enables users to acquire detailed information pertaining to the more than 1,300 public boating access sites and 80 Great Lakes Harbors, and their associated waters throughout the state of Michigan. By combining geospatial, relational database, and Internet technologies, MRBIS offers users the option to list Great Lake Harbors, or to list public boating access site by county, by water body, by proximity to a community, or by known sport fish species within a lake. Users can further refine their search to locate sites that meet specific criteria such as handicap access, ramp specifications, or fee requirements. Sites meeting the user requirements are listed in a user friendly format with site specific information such as: ramp specification, local weather forecast, site rules, site administrator or harbor master contact information, fish stocking, and the availability of boater amenities such as restroom and shower facilities, fuel, water, boat hoist and pump out, and electrical services. A link to the DNR On-Line Harbor Reservation System is provided for Great Lakes Harbors were available. Links to lake contour maps, local watercraft control regulations, DNR fish stocking data, and DNR Master Angler records are provided for boating access sites on lakes where such data is available. Lakes known to be loon habitat are also noted.

The mapping capabilities of MRBIS extend beyond the traditional street map most Internet users have become accustomed to and include lake contour lines and areas regulated by local watercraft controls such as "no wake" zones. Users can also view the site with a backdrop of aerial imagery, topography, or

land use. All of which are available statewide. Users have the ability to zoom in and out of the map, to pan around the map, and to click on the map to gain additional information about a location. Once a user finds a boating access site or Great Lake Harbor, MRBIS offers a routing capability that provides driving directions to the site. The map, route, and driving directions can then be printed in a printer friendly format.



The website is available from the DNR's website at www.michigan.gov/dnr. MRBIS has proved to be a very well received site, with over 1.5 million pageviews during the 2005 boating season. Some of the most requested features are aerial photos, lake contour maps, site identification and fish related information.

The DNR received an award for MRBIS, version I, from the States Organization for Boating Access (SOBA). In addition, the DNR has received numerous inquiries from other states on the application design and usefulness.

B: Significance to the Improvement of the Operations of Government

The significance of MRBIS to the operations of government includes : support for an IT strategic role; advancing technology and innovations management capabilities; leveraging IT investments and providing ROI; support collaboration and partnership goals; enhancing state Web based service capabilities and the state brand.

- **GIS / MRBIS Strategic Role and Benefits :** GIS projects such as MRBIS play a strategic role in implementing public policies at the state, local and federal levels. MRBIS, for example, supports three of the Governor's six goals: economy and economic development; better, more efficient government; and protection of the environment.
- **Technology and Innovations Management:** MRBIS extends the scope and benefits of technology innovations management. It is built upon the data, information and management experience of the state's cross-boundary GIS investment.

- **Investment Management:** Michigan's \$32 million cross boundary GIS investment permits unprecedented ROI for the 21 Internet mapping applications under development or already completed.
- **Sharing, Collaboration and Partnerships:** Supports the 2005 - 08 Michigan's Information Technology Strategic Plan goals for sharing, collaboration and partnerships through collaboration with DNR, supporting the Michigan Economic Development Corporation goals and providing benefits to Michigan's tourism industry.
- **Web Based Services and State Brand:** Its placement on Michigan's <http://www.michigan.gov/> and DNR's <http://www.michigan.gov/dnr> home pages supports and enhances Michigan's brand and highlights the importance of the tourism and recreational industries.

C. Benefits Realized by Service Recipients, Taxpayers, Agency or State

- **Service Recipients / Boaters:** Users can locate a public boating access sites by county, water body, proximity to a community, or a Great Lake Harbor. Boaters can plan trips at their convenience, using up to date information, and can plan extended, including overnight trips to one or several locations, including an extended vacation.
- **Recreational Boating, Tourism and Economic Development Support:** MRBIS directly supports the \$2.24 billion recreational boating industry by facilitating short and long term planning of trips, and maximizing recreational opportunities and events. Recreational boating related spending produces a total of 24,000 Michigan jobs. Spending by registered boaters provides significant revenues and income to thousands of boating, hospitality, and retail businesses throughout the state.
- **Agency Data Compilation and Printing Costs:** With over 1.5 million MRBIS pageviews during the 2005 boating season, one can assume that boating information accessibility far exceeds the 70,000 copy printed boating guide distribution. Furthermore, the cost to develop MRBIS was substantially less than the cost to print and distribute the hard copy guides. In addition, the ability to add, delete, or modify attributes of a boating access site allows the DNR to provide the public with current information. The paper guides were often outdated by the time they reached the public.
- **Agency Staff Costs:** Another substantial agency benefit of MRBIS has been in time saved by DNR staff. Prior to MRBIS, DNR staff spent a substantial amount of time responding to public inquiries about boating access sites. Now, a large portion of the boating public goes directly to MRBIS for information that includes updated contact information for each launch site manager. This has allowed DNR staff to spend more time on other inquiries and to therefore provide better service. Of course, some people still call the DNR with questions about boating access sites. When this happens, DNR staff now goes to MRBIS to find the answers.

D. Realized Return on Investment, Short-Term/Long-Term Payback

1. Agency Level Project ROI, enterprise level infrastructure investments

MRBIS has both reduced the costs of providing recreational boating information to the public and permitted shifting DNR staff resources away from this activity, for a total annual savings of \$93K (\$43K + \$50K = \$93K).

- **Brochure Costs:** The \$45K annual cost of developing the brochure exceeded the \$32,000 one time cost of developing the system, netting a one time savings of \$13,000 and annual savings of \$43,000 (\$45K - \$2K system operating cost)

- Staff (FTE) and Related Dollar Savings: MRBIS permits shifting one half of a FTE to other agency functions, saving the state \$50K (.5 X \$100K [Full year FTE cost] = \$50K) annually.

2. State government / Cross-Boundary GIS Investment ROI

The \$32 million cross-boundary GIS investment of which approximately \$2.5 million represents enterprise web mapping technology development permits leveraging investments on MRBIS I and II of ratios of 78 and 11 to 1. The development costs for MRBIS I and MRBIS II were \$32,000 and \$225,000, respectively.

- MRBIS I Development Cost ROI: $\$2,500,000 / \$32,000 = 78 / 1$
- MRBIS II Development Cost ROI: $\$2,500,000 / \$225,000 = 11 / 1$

3. Infusion of Recreational Dollars in the Michigan Economy

Registered Michigan boaters spend nearly \$900 million on boating trips. The average registered boat owner spends a total of \$1,073 on boating trips. An average of \$25.40 is spent per day trip (Average of 19.5 trips per year), and \$66.20 overnight (average of 8.7 trips per year). Fifty-four percent of all trip spending occurred on overnight trips.

- It is necessary for only a nominal proportion of the 1,550,417 MRBIS pageviews during the 2005 boating season to result in recreational boating trip that would not have occurred otherwise to infuse an additional \$1,000,000 into the tourism and recreational economy.
 - Day Trips: $\$1,000,000 / \$25.40 = 39,370$, or only 2.5 percent of visits.
 - Overnight Trips: $\$1,000,000 / \$66.20 = 15,152$ or only 1 percent of visits.
- If only ten percent of the MRBIS contacts were to result in new trips, the annual infusion of dollars in the economy could range between \$4 million, if all were only day trips, or up to \$10.3 million at overnight trip expenditure rates.

4. Leveraging Job Creation

Each \$93K in recreation boating expenditures supports one boating, hospitality or retail businesses job ($\$2,240,000,000$ in boating recreation expenditures / 24,000 jobs = \$93.3K per job). Thus the potential infusion of new recreation dollars could create between 43 and 110 new jobs ($\$4 \text{ M} / \$93.3\text{K} = 42.9$, and $\$10.3 \text{ M} / \$93.3\text{K} = 110.4$).